INSTRUCTIONS FOR OPERATION AND CARE OF

Dickson

INSTITUTIONAL

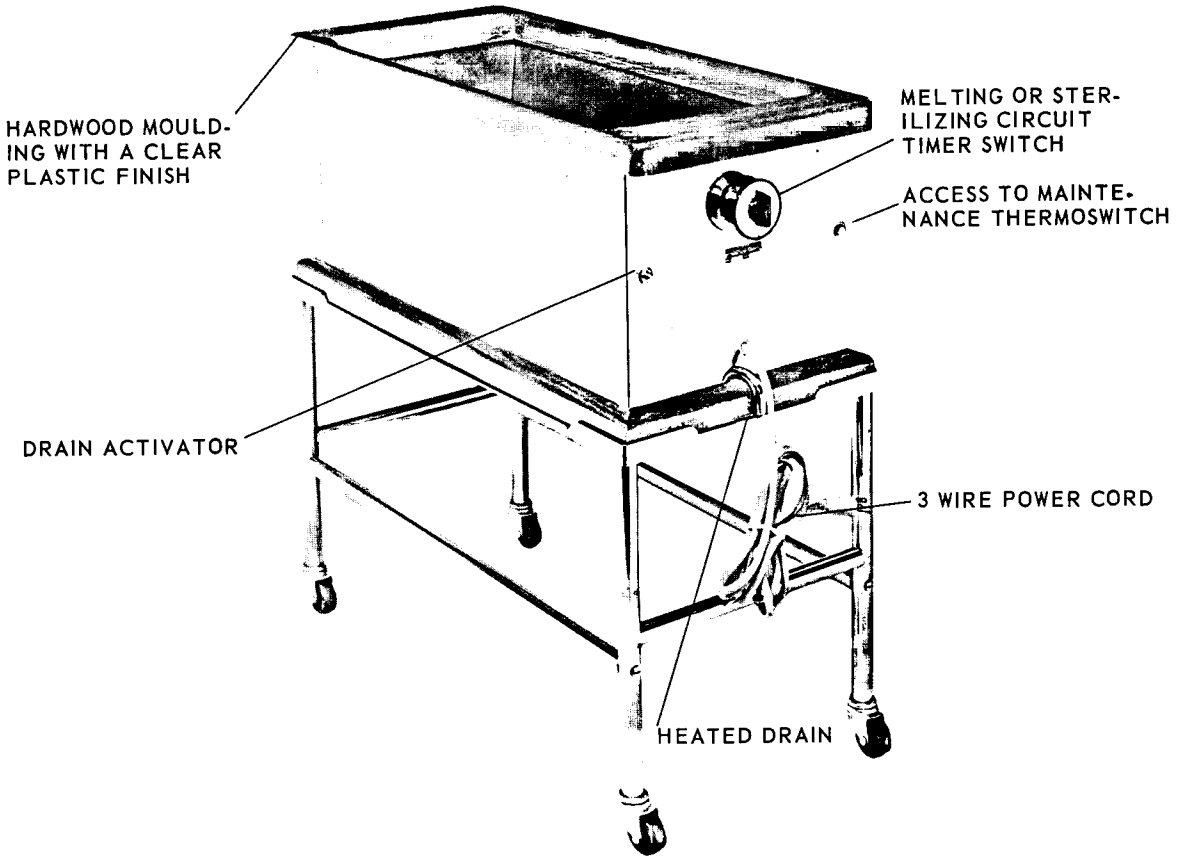
PARAFFIN BATHS

(MODELS BB, K, E, & D2)

Manufactured by:

THERMO-ELECTRIC CO.

1948 Columbus Road,
Cleveland, Ohio 44113


HARDWOOD MOULDING WITH A CLEAR PLASTIC FINISH
MELTING OR STERILIZING CIRCUIT TIMER SWITCH
ACCESS TO MAINTENANCE THERMOSWITCH
DRAIN ACTIVATOR
3 WIRE POWER CORD
HEATED DRAIN

DICKSON MODEL BB

WHY DICKSON?

DICKSON Paraffin Baths are precise instruments designed to safely facilitate hot paraffin treatments of the body extremities so as to relieve the pain and discomfort associated with joint diseases and/or injuries. Published discourses on the benefits of such treatments are available from the Thermo-Electric Co.

DICKSON Baths have evolved since 1924, using the ideas, imagination and advice of many in the field of physical therapy and physical medicine. Today DICKSON is synonymous with quality and is the finest name in the application of paraffin.

Distinctive features of these baths are detailed on the opposite and succeeding pages but, a few of the more prominent ones might be:

Monel Tank. Perspiration and paraffin are most corrosive. Experiments since 1924 with stainless, aluminum, plastic, et cetera have found only monel, an expensive copper nickel alloy manufactured by the International Nickel Company, will not corrode with heavy use. Therefore, all DICKSON Institutional Baths are constructed with monel tanks.

Heated Drain. This feature allows for easy paraffin removal for cleaning and/or replacement. The drain must be heated so that the paraffin will always flow regularly and, most important, so that the drain will properly close after use and not be bound by congealed paraffin. The flow rate of these drains has been increased. For example, a BB unit will now drain completely in 8 minutes.

Precise Temperature Control. The DICKSON Baths operate with a maximum temperature variation of plus or minus $1^{O}F$. This insures a critical bath temperature and the quickest possible formation of the paraffin "glove" which is so essential to the paraffin treatment, as it quickly protects the immersed member from burns, while allowing a great amount of heat input. In other words, a good paraffin bath must hold the temperature precisely so the solution will immediately congeal around the relatively colder member when it is immersed.

Timed Melting or Sterilizing Temperature Circuit. The DICKSON Bath is the only bath having a timed hi-heat circuit. This simply allows the melting of the paraffin or sterilizing to take place unattended. Also, with such a switch, the hi-heat cannot accidentally be left in the "on" position. Sterilization is accomplished by the operator turning the hi-heat circuit on for an hour at the end of the day. When the timer returns to zero, the bath automatically returns to treatment temperature, ready for use the next morning.

Light Mahogony Moulding. These hard wood mouldings, with a new plastic epoxy finish, insure the patient's protection from the heat of the bath and surrounding metal. They are contoured and provide a comfortable, cool and safe rest for the patient's arm or leg. They insulate the tank from the atmosphere and thereby minimize heat conduction and do contribute to the stability of the bath temperature. These mouldings, in slightly extending over the inside of the tank, also serve as a splash guard or arrester.

Integrated Heating Elements. The elements are an integral part of the tank and provide an even flow of heat with no dangerous hot spots. Also, in this regard for safety, all DICKSON baths have a limit switch on both the hi-heat and maintenance circuits which will automatically prohibit runaway temperatures.

There are many other features, but, again, a most important one is the renowned DICKSON quality with the attendant trouble-free rugged construction.

All DICKSON Institutional Bath models are shipped complete with pure paraffin, white paraffin oil and paraffin blend, plexiglass bottom slats, cover, floating test thermometer and stand (except Model D2). They are guaranteed for 1 year against mechanical or electrical defects.

This is a quality instrument. Compliance with these brief instructions will result in many years of precise operation and the relief and comfort of many appreciative persons.

DIRECTIONS
FOR
OPERATING

Plug the bath into any convenient outlet of 115 volt 50/60 cycle alternating current (unless specifically modified for operation on higher voltage or direct as well as alternating current). Where a proper outlet is not available, an adapter plug should be used and correctly grounded.

Place the oil and the paraffin in the bath. Make sure the oil is in the bath before activating the hi-heat circuit. Turn on the time switch, which activates the hi-heat circuit, for the full 55 minutes. To rapidly melt the paraffin it may be desirable to activate the hi-heat circuit a second time. In any event, when the time switch returns to "O" the hi-heat circuit is broken and the bath automatically will begin to operate on the maintenance circuit. Therefore, after the timer returns to "O", allow the bath to cool until the treatment temperature of 126°F. is reached and maintained.

Keep the plug connected to the electric circuit. The maintenance circuit, independent of the hi-heat circuit, is controlled by a close differential thermoswitch which is set to automatically keep the bath liquid and at a temperature of 126°F. The DICKSON Bath precisely maintains this temperature. This insures the quickest possible "glove" formation while allowing, when desired, used "gloves" to be quickly melted and returned to solution.

If a higher temperature is required for an individual patient, turn the time switch on until the thermometer shows the desired temperature. As a rule of thumb, with the time switch on and the bath covered, the temperature will rise 1°F. per minute.

If a lower temperature is required for an individual patient, pull the line plug, letting the bath cool until the thermometer indicates the temperature desired. The bath will cool at a rate of 1°F. in 10 minutes.

To sterilize the bath, turn the time switch on for the full 55 minutes. The temperature will rise to about 212°F. The bath should, in this manner, be sterilized after each day's use. Again, the bath will automatically return to the operating temperature. The bath is thus normally self-sterilizing.

It is recommended the Paraffin Bath be connected to the electric current day and night. It will then be ready for use at any time. To attempt to melt the paraffin every day to bring it to an operating temperature will consume valuable time. The cost of continuous operation of the bath will approximate the cost of continuously burning a 40 watt bulb.

The temperature of the paraffin will not rise above 212°F. at any time. Again, on all DICKSON models, there is a safety limit switch on the melting element. Thus the powerful melting element is safety circuited by both the cut-out switch and the timer mechanism. As an added precaution, the maintenance element, which in itself is not powerful enough to overheat the bath, is also limited by a cut-out switch.

If it is necessary to disconnect the bath from the electrical circuit at night, the temperature of the paraffin solution will drop approximately 25 to 30°F. By turning the time switch on in the morning for about 30 minutes, the proper treatment temperature will again be achieved.

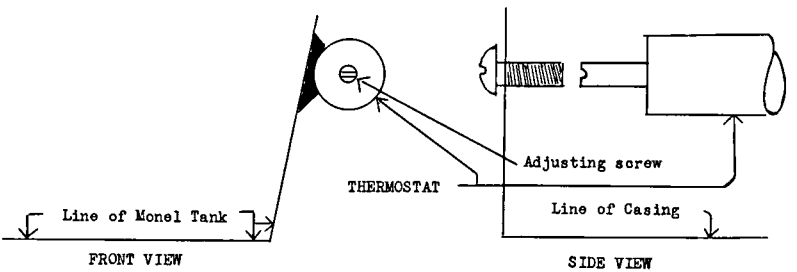
DIRECTIONS FOR ADJUSTING THE MAINTENANCE OR TREATMENT CIRCUIT THERMOSWITCH

Remove the screw at the front right side of the bath. This screw holds the plate marked "A.C. ONLY" or "MAINTENANCE".

With a small screwdriver, feel for the slot in the adjusting screw.

To lower the operating temperature, turn the adjusting screw CLOCKWISE - about 5 minutes on a clock dial for a 6 degree change. Since the bath cools very slowly, about 1 degree in 10 minutes, allow plenty of time for the temperature to settle to the desired point before further adjustment.

To raise the operating temperature, turn the adjusting screw COUNTER-CLOCKWISE.



Because these thermoswitches are in continuous operation, much like an automobile going uphill, they do on occasion malfunction. In such an event, please write for replacement instructions.

DIRECTIONS FOR TREATMENT

The member to be treated should first be thoroughly washed and dryed. The member should then be placed in the bath and quickly removed so a thin coat of paraffin congeals and adheres to the skin. This procedure should be repeated until a "glove" of paraffin is of sufficient thickness to allow the patient to keep the member immersed in comfort.

After this glove is formed, the member should be constantly immersed in the bath for 10 to 20 minutes or longer. The glove of adhering paraffin should then be removed and massage and re-education of the member instituted.

The skin remains soft, pliable and moist when this treatment is used and a characteristic hyperemia results which is not obtainable in any other way.

Continuous immersion is the recommended procedure for the fastest relief. For new patients, it is suggested the following times be considered:

10 minutes for fingers
10 to 15 minutes for hands
15 to 30 minutes for arms
30 to 45 minutes for the feet

Because of the high heat input of the paraffin, the bath must be used judiciously in treating old, weak or debilitated individuals. If circulatory and sensory changes are present, the application of paraffin should be made cautiously.

For such patients, we suggest the glove be allowed to build up and the member removed from the bath until the paraffin is cool. The member in the paraffin glove then should be again immersed for as long as possible.

Also, when there is insufficient time to allow the member to soak, a thick glove should be developed on the member and the glove wrapped in "Saran Wrap" or an equivalent, to obtain the longest possible benefit from the heat.

For some patients, particularly those younger and in good health, a higher bath temperature can be used. For these patients it is suggested that the bath temperature be raised to 130 or 135°F.

Many operators of paraffin baths, in an effort to keep the bath as clean as possible, are now discarding the paraffin gloves after use rather than returning them to the bath. This practice has been facilitated by the advent of DICKSON Refill Kits, which economically provide small blocks of paraffin and oil and which can be used to maintain the bath level. If the glove is to be placed back in the bath, all possible perspiration should be drained from it prior to its return.

DIRECTIONS
FOR
CLEANING THE BATH

Often Paraffin baths are not cleaned as regularly as their use warrants. In many cases this is simply because the removal of paraffin and through cleaning is so laborious and time consuming. It is for this reason Institutional DICKSON Baths are provided with a heated drain and the Thermo-Electric Co. now prepares an economical refill kit.

To daily sterilize the Bath, as previously mentioned, the melting circuit timer should be placed in the "on" position for approximately 55 minutes. This will raise the Bath temperature above 200°F. and effectively sterilize the Bath.

However, if there is a considerable amount of moisture and sediment in the bottom of the tank, a concentrated solution of boric acid and water should be used to remove same from the bath. Place about 6 teaspoonfuls of boric acid powder in 1 gallon of hot water. Pour this mixture into the Bath and it will flow at once to the bottom of the treatment tank. Unless the water is extremely hot, the mixture will congeal some paraffin. Allow the paraffin to be absorbed and the boric acid mixture to flow to the drain end of the Bath.

Open the drain by turning the drain handle underneath the Bath clockwise 6 full turns and then press the drain switch button on the front panel until the drain begins to flow. As soon as the solution starts to flow, release the drain switch button as the paraffin will have sufficient heat to now insure its continued flow. Allow all the water and some of the paraffin to drain. Push the drain switch button and close the drain after the water and some of the paraffin have been removed. Discard this paraffin and water and replace it with fresh paraffin and oil.

If this method is used often enough, the bath will be kept clean of moisture that settles on the bottom of the tank. However, sediment will not be completely removed.

If there is a noticeable amount of sediment in the bottom of the Bath, all the paraffin must be removed for proper cleaning. Therefore, periodically, the Bath should be drained completely of the paraffin solution and the bottom of the Bath and the plexiglass slats cleaned thoroughly.

For this purpose, your Bath is supplied with a hollow drain ring that can be placed in the drain opening and which rises about half an inch above the bottom of the drain. In this manner the clean paraffin can be drained into a container and the sediment will remain in the bottom of the Bath.

After this is done, the Bath should be disconnected from the electrical outlet and the drain ring removed. The sediment and sludge may then be drained, the bottom flushed and the slats cleaned.

The clean paraffin in the container should still be in a liquid state and can readily be returned to the Bath. Reconnect the cord to the electrical outlet and the Bath will soon be ready again for the patient's use.

This operation removes 1 to 3 pounds of paraffin from the solution and it should be replaced by adding fresh paraffin and oil to the bath.

PARAFFIN

SOLUTION REFILLS

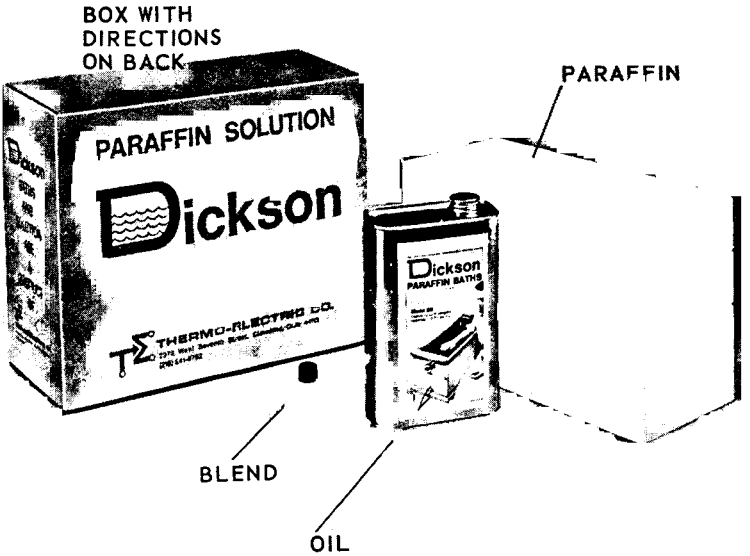
The Thermo-Electric Co. prepares Dickson Solution Refill Kits, which consist of 11 pounds of pure paraffin, in 4 equal blocks, 1 quart of white oil and a small bottle of aromatic paraffin blend.

Use of these factory prepared kits is recommended so the proper type and mixture of paraffin and oil is assured. Your hospital dealer generally handles these refill kits or they are available from our plant in Cleveland, Ohio.

These kits may be used singly or grouped so as to either replace a small quantity of paraffin which has been removed in cleaning or to effect a complete refill.

If these factory prepared kits are not used and the paraffin is purchased locally, it is most important that 126°F. melting point paraffin be obtained. If this is not done, the Bath will not operate at a high enough temperature to keep the paraffin liquid or, if adjusted to overcome this, will be too hot for use by all except the strongest patients.

PARAFFIN REFILL KIT



INSTRUCTIONS

- Approximately ¼ quart of oil should be used with each block of paraffin.
- Place in a clean tank the following amounts of paraffin and oil.

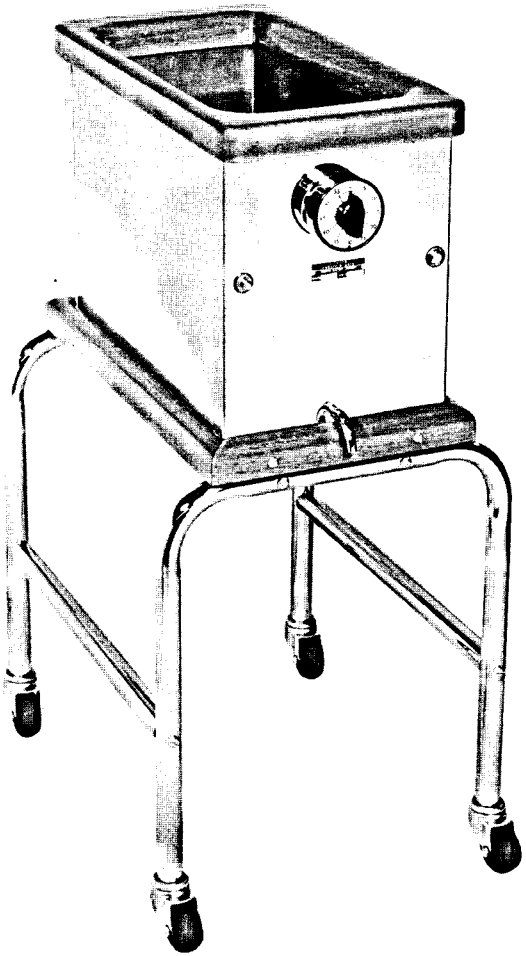
Treatment Tank Size	Blocks of Paraffin	Quarts of Oil
14" x 7" x 9" or 10" Dickson K or H (900 Cubic Inches)	6	1½
15" x 7" x 10" (1000 Cubic Inches)	7	1¾
16" x 16" x 16" Dickson D2 (4000 Cubic Inches)	32	8
25" x 11" x 10" Dickson E or BB (2700 Cubic Inches)	18	4½

DO NOT OVERFILL

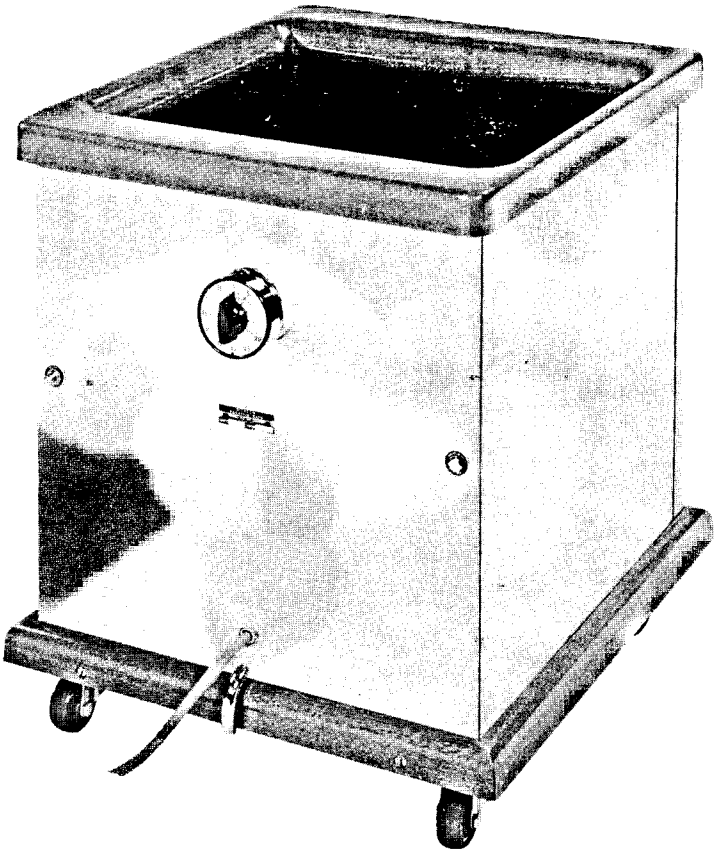
- Activate the melting or sterilizing circuit.
- Allow the paraffin to melt and form a solution with the oil.
- Switch to the maintenance or operating circuit (Dickson models BB, K, E, and D2 switch to this circuit automatically when timer returns to "0").
- Add only a few drops of Aromatic Blend to the bath. The balance of the blend supplied with the kits should be used as needed.
- Add any remaining paraffin and oil as required.

See Other Side

INSTRUCTIONS INCLUDED IN EACH KIT



DICKSON MODEL K

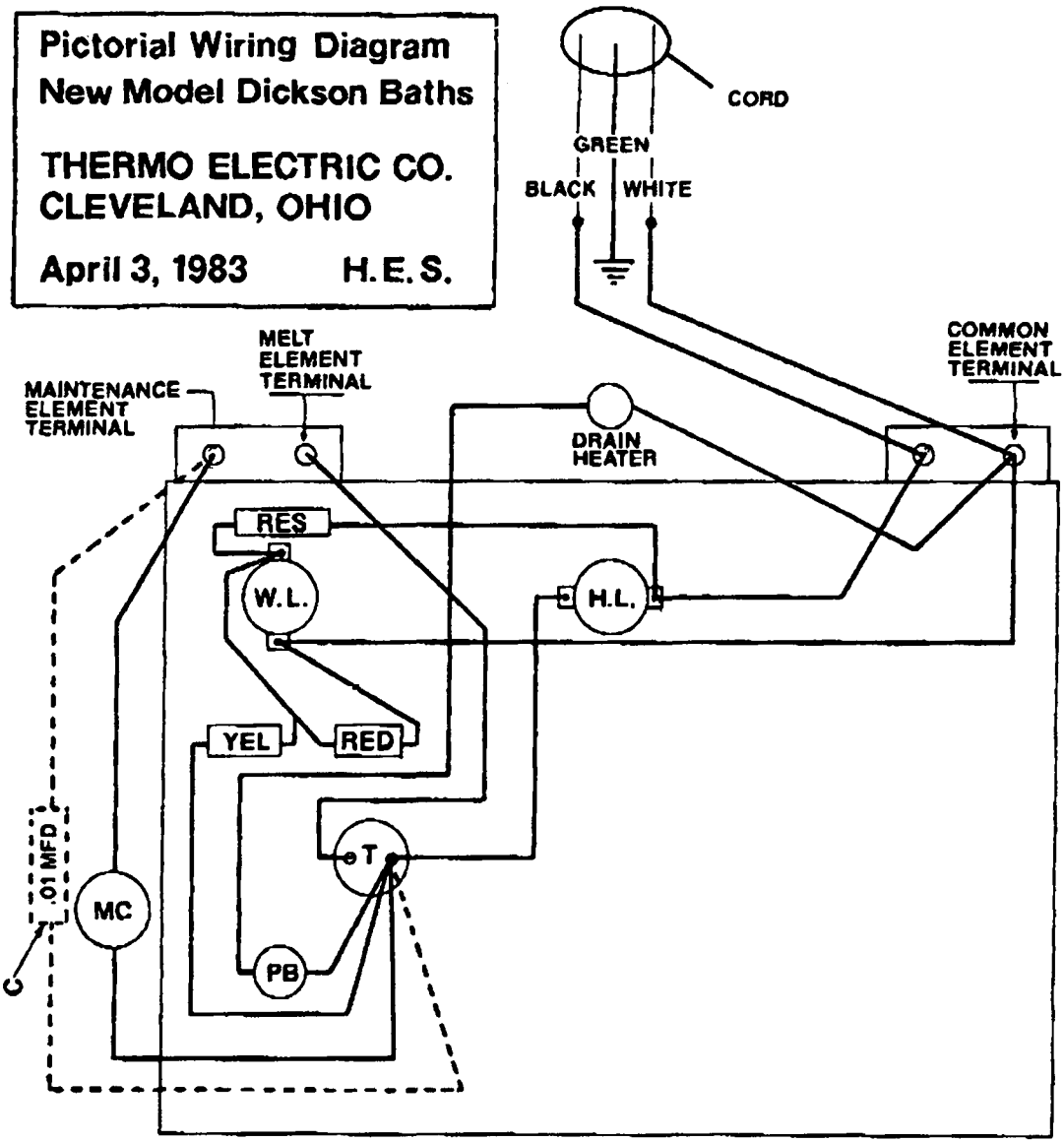


DICKSON MODEL D2

Pictorial Wiring Diagram
New Model Dickson Baths

THERMO ELECTRIC CO.
CLEVELAND, OHIO

April 3, 1983 **H.E.S.**



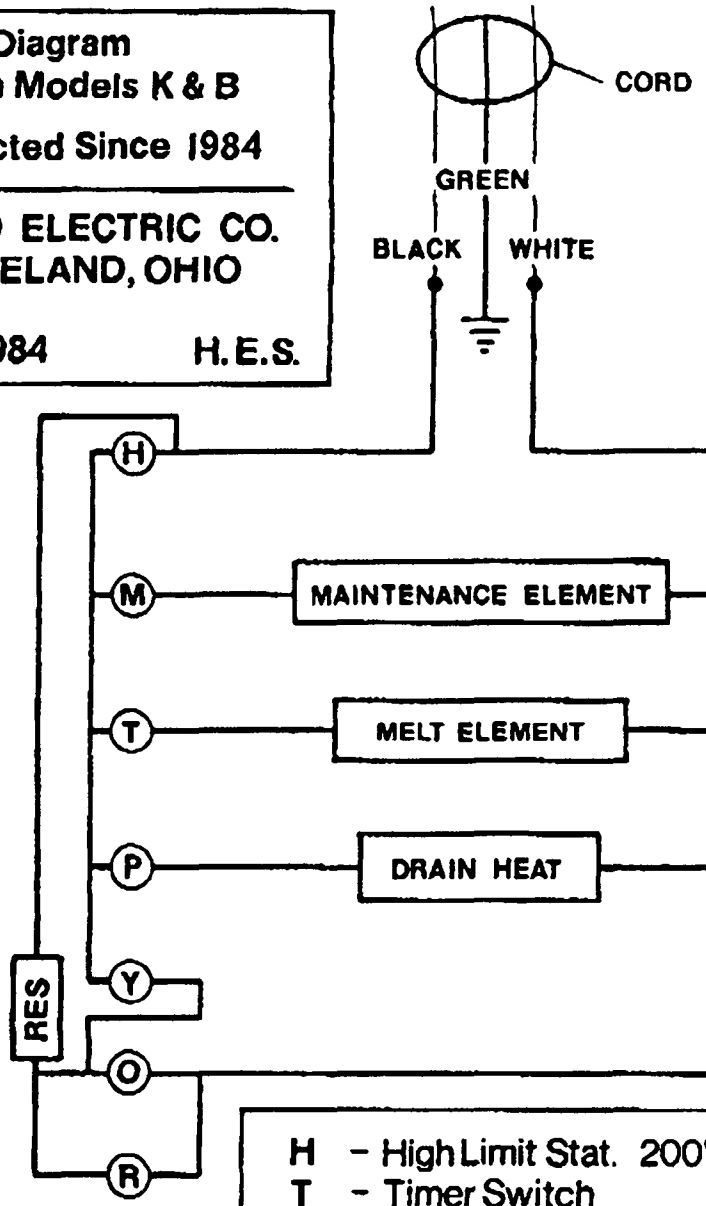
H.L. - High Limit 200°
W.L. - Warning Light Control 135°
M.C. - Maintenance Control V. at 126°
T - Time Switch 60 Min.
P.B. - Push Button Switch
RES - 3,000 Ohms @120 V 12,000 Ohms @ 240V
X - 150K Ohm Resistors Installed on 240 V Unit
C - Cap. .01 MFD 600V – on 240V Unit

Wiring Diagram
Dickson Models K & B

Constructed Since 1984

THERMO ELECTRIC CO.
CLEVELAND, OHIO

APRIL 3, 1984 H.E.S.



H - High Limit Stat. 200°F
T - Timer Switch
M - Maintenance Stat. 126°F Adj.
P - Push Button Switch
Y - Yellow Pilot Light
O - Indicator Stat 135°F
R - Red Pilot Light
RES = Resistor 3K OHMS at 120V